EURO VERBAU®

MANUAL

MINI-BOX
MB 60

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TRENCH SHORING SYSTEMS FROM SHORING PROFESSIONALS

Trench shoring equipment

Production - Sales - Rental - Service

These instructions for use must be presented to the building site personnel.

Also to be obeserved are the diagram of stresses on the lower braces and the load-bearing diagram (bracing charasteric) for the relavent type of brace. The brace stresses read from the diagram have to be applied to the appropriate load-bearing diagram to see whether the system is usable in regards of the trench depth and width.

1. General purpose of use

A light typ of shoring box developed for smaller sewerage constructions, laying of gas-, water- or other supply-pipelines.Ideally suited for the use of mobile excavators.

2. Specifications

Box length	:	2000/2500/3000 mm
Box height	:	2000/1500 mm
Max. pipe culvert height	:	977/717 mm
Box height, support plates	:	500/1000 mm

3. Safety regulations

ACHTUNG

We refer to the fact that the above shoring system is only for the intended use and may only be mounted, installed, dismantled and unmounted in the sequence listed under points 4 - 7, exclusively with the use of all relevant "original construction elements". Please ensure a steady installation of the box; otherwise, it should be changed if necessary!
If this is not observed, the manufacturer's liability and warranty are invalid. Observe the loadbearing capacity of the shoring elements.

Note:
All of the requirements of BG-Bau (the professional association) as well as DIN 4124 "Excavations and trenches, embankments, workroom widths, shoring" are applicable. In the event of conditions deviating from the standard conditions, construction site statics must be prepared.

4. Assembly (siehe Bild 1a/1b):

a) Lay the plate (1) with the soldier profile (2) facing upwards on level ground.

b) Insert the struts (3) into the soldier profile so that the shafts of the struts are always mounted alternately (see sketch). This is statically determined and, if not observed, leads to a reduction in the stability of the bracing. Insert two bolts (4) d = 20 mm, L = 140 mm each into the boreholes provided on the soldier profile, via the head plates of the struts, and secure them with safety clips. Mount all four struts accordingly.

c) Once all four struts have been mounted, hang a suitable lifting device on the second plate (5). The weights of the units can be taken from the datasheets. Then attach, bolt and secure the second plate from above.

d) Set the shoring box to the ditch width using the butterfly nuts on the struts.

e) By turning the butterfly nuts on the struts, increase the lower distance of the plates, depending on the ground conditions, by approx. 2 cm per meter of plate height (Fig. 2 - a - c)..

f) Assemble the support boxes analogously as described in 4. a - c, whereby only 2 shafts are required and the extension box is attached to the base element with locking pins.

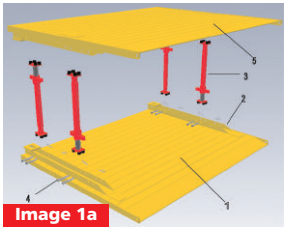


Image 1a

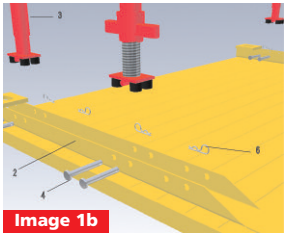


Image 1b

5. Installation

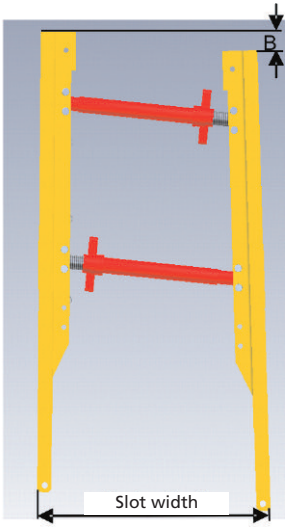


Image 2

5.1 Installation procedure for solid ground

Pick up the first preassembled shoring box using an appropriate lifting device and place it in the previously raised ditch section. The weights can be taken from the data sheets, as mentioned above. Then, by turning the butterfly nuts, press the plates against the ditch walls.

5.2 Lowering procedure for non-solid ground

The mini-box can be lowered to some extent in the case of non-solid ground. Protect the plates of the mini-box against damage before insertion by the excavator by attaching protecting rails to them. These are attached with bolts d = 20 mm, L = 140 mm and secured with safety clips. The shoring unit is pressed in the area of the post.

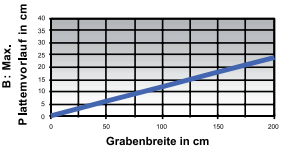
a) Pre-excavate the ditch to a max. depth of 1.25 m.

b) Lift the preassembled shoring unit set to the trench width with an appropriate lifting device and place it in the pre-excavated ditch. Refer again to the datasheets to find the weights.

c) Excavate alternately and press down the plates.

d) If the trench depth exceeds the box height, then the shoring depth can be increased if necessary with the support boxes. These are connected to the base unit by means of the supplied parts. Now you can excavate and press down again, as described in 5.2.c.

Max. Plattenvorlauf bezogen auf die Grabenbreite



6. Dismantling

6.1 Dismantling in setting procedures

a) Loosen the plates pressed against the ditch wall (see 5.1) by turning the butterfly nuts of the struts away from the trench wall.

b) Insert the back filling material in layers (observing the compaction level).

c) Pull the entire shoring unit up to the filled height.

d) Compact the filler material.

e) Restart at point 6.1.c, until the mini-box is completely pulled out of the earth.

6.2 Dismantling in the lowering procedure

a) Insert the back filling material in layers (observing the compaction level).

b) Pull out the mini-box up to the filled area.

c) Compact the filler material.

d) Restart at point 6.2 a, until the mini-box is completely pulled out of the earth.

7. Disassembly

Before transporting away the VB 60, it is disassembled analogously to the assembly but in the reverse sequence.

8. Maintenance / Service

On each disassembly, the VB 60 should be cleaned. The thread of the spindels should be cleaned and lubricated if necessary. The entire shoring unit must be protected against corrosion caused by handling damage by the use of appropriate protective measures.

9. Transport

When unloading, you should store the supplied wooden blocks and the rubber plates appropriately. These parts must always be re-used for the return transport. As the shipper, you are co-responsible for the appropriate shipping of the return transport.

10. Lifitng and pulling

- Lifting, transporting, pulling or towing are only permitted with an appropriate and approved lifting accessory.
- Use a loading hook with a safety latch.
- Transport as close to the ground as possible.
- Only place on level, solid ground.
- Standing underneath hanging loads is prohibited.
- Standing in the machine area is prohibited.

11. Criteria for removing parts from service and repair instructions

a) As a matter of principle, all shoring parts must be checked for functionality before use.

b) The criteria for the removal from service of worn or damaged parts include:

1 missing parts, such as nuts, screws, rungs and bolts

2 broken parts, such as shafts, bolts, spreading systems

3 With regard to strongly deformed or twisted parts, or holes in the plate body, for example, the manufacturer should be consulted in case of doubt.

c) Defective parts must be replaced or repaired.

d) Smaller repairs may be performed by the user, after consultation with the manufacturer.

e) Only original manufacturer spare parts may be used.

f) There is no warranty for improperly performed repairs or the use of non-original parts.

g) The requirements of the Operating Safety Ordinance are applicable.